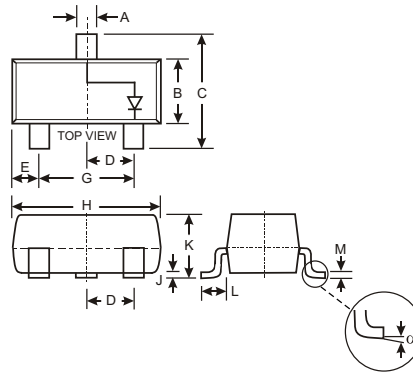


### Features

- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automatic Insertion
- For General Purpose Switching Applications
- High Conductance

### Mechanical Data

- Case: SOT-23, Molded Plastic
- Case material - UL Flammability Rating Classification 94V-0
- Moisture sensitivity: Level 1 per J-STD-020A
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Marking: KJF, JF, See Page 2
- Weight: 0.008 grams (approx.)



SOT-23		
Dim	Min	Max
A	0.37	0.51
B	1.20	1.40
C	2.30	2.50
D	0.89	1.03
E	0.45	0.60
G	1.78	2.05
H	2.80	3.00
J	0.013	0.10
K	0.903	1.10
L	0.45	0.61
M	0.85	0.80
	0	8
All Dimensions in mm		

### Maximum Ratings @ T<sub>A</sub> = 25 C unless otherwise specified

Characteristic	Symbol	BAL99	Unit
Non-Repetitive Peak Reverse Voltage	V <sub>RM</sub>	100	V
Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage	V <sub>RRM</sub> V <sub>RWM</sub> V <sub>R</sub>	75	V
RMS Reverse Voltage	V <sub>R(RMS)</sub>	53	V
Forward Continuous Current (Note 1)	I <sub>FM</sub>	300	mA
Non-Repetitive Peak Forward Surge Current @ t = 1.0 s @ t = 1.0s	I <sub>FSM</sub>	2.0 1.0	A
Power Dissipation (Note 1)	P <sub>d</sub>	350	mW
Thermal Resistance Junction to Ambient Air (Note 1)	R <sub>JA</sub>	357	C/W
Operating and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65 to +150	C

### Electrical Characteristics @ T<sub>A</sub> = 25 C unless otherwise specified

Characteristic	Symbol	Min	Max	Unit	Test Condition
Forward Voltage (Note 2)	V <sub>F</sub>		0.715 0.855 1.0 1.25	V	I <sub>F</sub> = 1.0mA I <sub>F</sub> = 10mA I <sub>F</sub> = 50mA I <sub>F</sub> = 150mA
Reverse Current (Note 2)	I <sub>R</sub>		2.5 50 30 25	A A A nA	V <sub>R</sub> = 75V V <sub>R</sub> = 75V, T <sub>J</sub> = 150 C V <sub>R</sub> = 25V, T <sub>J</sub> = 150 C V <sub>R</sub> = 20V
Total Capacitance	C <sub>T</sub>		2.0	pF	V <sub>R</sub> = 0, f = 1.0MHz
Reverse Recovery Time	t <sub>rr</sub>		4.0	ns	I <sub>F</sub> = I <sub>R</sub> = 10mA, I <sub>rr</sub> = 0.1 x I <sub>R</sub> , R <sub>L</sub> = 100

- Notes:
- Part mounted on FR-4 board with recommended pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
  - Short duration pulse test used to minimize self-heating effect.

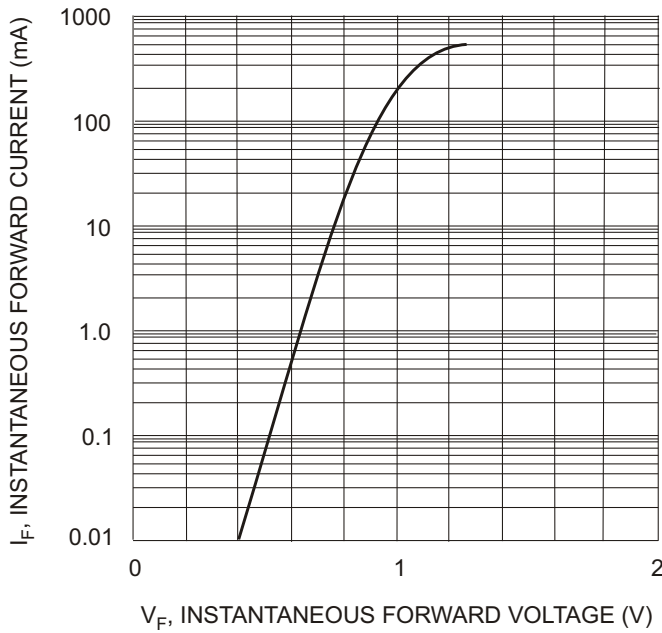


Fig. 1 Forward Characteristics

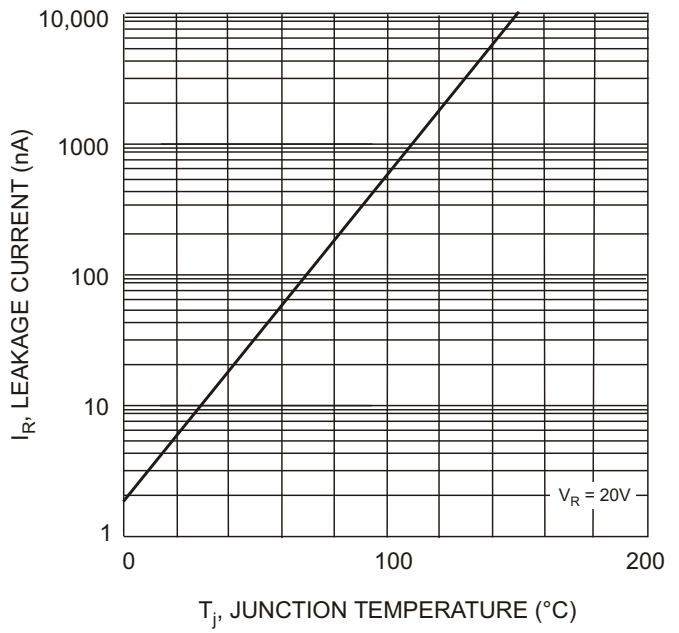


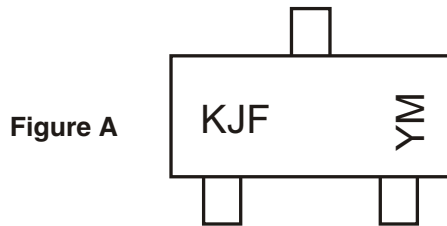
Fig. 2 Leakage Current vs Junction Temperature

### Ordering Information (Note 3)

Device	Packaging	Shipping
BAL99-7	SOT-23	3000/Tape & Reel

Notes: 3. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

### Marking Information (This part may be marked as Figure A or B Below)

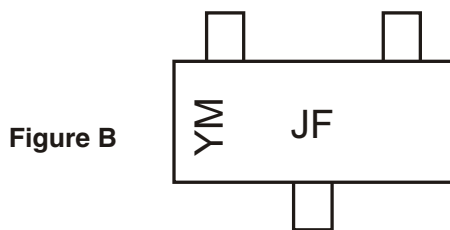


KJF = Product Type Marking Code (See Page 1)  
 YM = Date Code Marking  
 Y = Year ex: N = 2002  
 M = Month ex: 9 = September

Date Code Key

Year	1998	1999	2000	2001	2002	2003	2004
Code	J	K	L	M	N	P	R

Month	Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D



JF = Product Type Marking Code (See Page 1)  
 YM = Date Code Marking  
 Y = Year ex: N = 2001  
 M = Month ex: 9 = September

Date Code Key

Year	2000	2001	2002	2003	2004	2005	2006	2007
Code	M	N	P	R	S	T	U	V

Month	Jan	Feb	March	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Code	1	2	3	4	5	6	7	8	9	O	N	D